CLAIMS:

I claim:

1. A method for controlling virtual memory translation during data movement operations enabled in a hardware environment, comprising the steps of:

monitoring, as a hardware operation, for an occurrence of a translation lookaside buffer (TLB) purge during setup and execution of a data movement operation from virtual memory, said occurrence of a TLB purge indicative that a change in virtual-memory-to-physical-memory mapping has occurred; and

upon detection of a TLB purge prior to completion of the data movement operation, aborting the data movement operation pending re-establishment of accurate virtual-memory-to-physical-memory mapping.

2. The method of claim 1, further comprising the step of enqueuing status information on whether the data movement operation completed or was aborted.

3. The method of claim 2, in which said status information includes identification of data that was successfully moved prior to an abort.

4. The method of claim 1, in which the data movement operation is a data copying operation.

5. A method for controlling virtual memory translation during data movement operations enabled in a hardware environment, comprising the steps of:

monitoring, as a hardware operation, for an occurrence of a translation lookaside buffer (TLB) purge during setup and execution of a data movement operation from virtual memory, said occurrence of a TLB purge indicative that a change in virtual-memory-to-physical-memory mapping has occurred;

upon detection of a TLB purge prior to completion of the data movement operation, aborting the data movement operation pending re-establishment of accurate virtual-memory-to-physical-memory mapping;

enqueuing status information on whether the data movement operation completed or was aborted; and

enqueuing status information including identification of data that was successfully moved prior to the abort.

6. Hardware for controlling virtual memory translation during data copying operations, wherein an occurrence of a translation lookaside buffer (TLB) purge during setup and execution of a data movement operation from virtual memory is indicative that a change in virtual-memory-to-physical-memory mapping has occurred, the hardware comprising:

means for setting a first flag upon initiation of a data movement operation;

means for periodically monitoring for TLB purges;

means for translating virtual address space to physical address space;

means for setting up one or more input registers on a data mover;

means, responsive to said means for translating and said means for setting up, for clearing the first flag and setting a second flag if a TLB purge has not been detected;

means, responsive to said means for translating and said means for setting up, for clearing the first flag and clearing a second flag if a TLB purge has been detected;

means for examining the second flag;

means for commencing physical movement of data if the second flag is set;

means for enqueuing a first operation completion status if a TLB purge is not detected before physical movement of data is complete; and

means for aborting the data copy operation and then enqueuing a second operation completion status if a TLB purge is detected before physical movement of data is complete.

7. The hardware of claim 6, in which the first operation completion status indicates completion of the data movement operation.

8. The hardware of claim 7, in which the second operation completion status identifies data that was successfully moved prior to the abort.

9. The hardware of claim 6, in which the data movement operation is a data copying operation.

10. The hardware of claim 6, in which the means for clearing the first flag and setting a second flag is enabled if a TLB purge has not been detected before physical data movement is to commence.

11. The hardware of claim 6, in which the means for clearing the first flag and clearing a second flag is enabled if a TLB purge has been detected before physical data movement is to commence.